Cotton/Soybean Insect Newsletter

Volume 15, Issue #13 Edisto Research & Education Center in Blackville, SC 31 July 2020

Pest Patrol Alerts

The information contained herein each issue is available via text alerts that direct users to online recordings. I will update the short message often for at least as long as the newsletter runs. After a new message is posted, a text message is sent to alert users that I have recorded a new update. Users can subscribe for text message alerts for my updates in two easy steps. Step one: register by texting **pestpat7** to 97063. Step two: reply to the confirmation text you receive by texting the letter "y" to complete your registration. Pest Patrol Alerts are sponsored by Syngenta.

Updates on Twitter

When noteworthy events happen the in the field, I will be sending them out quickly via Twitter. If you want to follow those quick updates, follow me at **@bugdocisin** on Twitter.

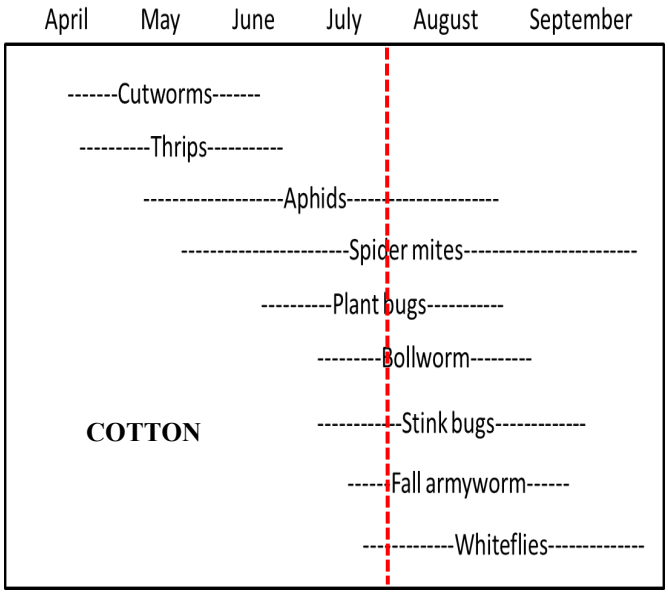
News from Around the State

Drake Perrow, local crop consultant, sent this photo to me showing immature grasshoppers not social distancing on peanuts. Grasshoppers have really been a pain this season in multiple crops. They are defoliators, so they are out there contributing to the defoliation we see. A complex of pests cause defoliation (grasshoppers, defoliating caterpillars, beetles, etc.). Send me your reports for this section!

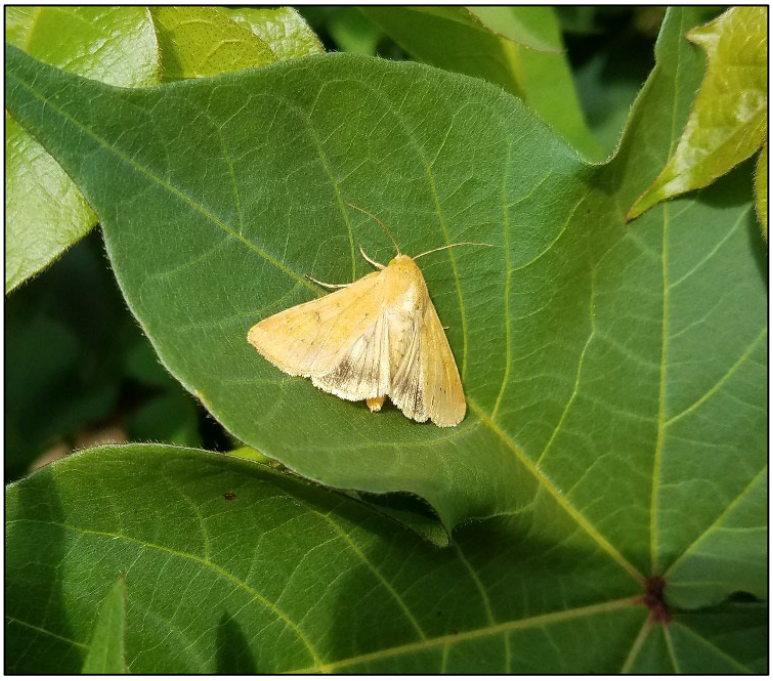
Cotton Situation

As of 26 July 2020, the USDA NASS South Carolina Statistical Office estimated that about 74% of the crop is squaring, compared with 69% at this time last week, 90% at this time last year, and 87% for the 5-year average. About 27% of the crop is setting bolls, compared with 14% at this time last week, 57% at this time last year, and 54% for the 5-year average. The condition of the crop was described as 16% excellent, 49% good, 19% fair, 10% poor, and 6% very poor. These are observed/perceived state-wide averages.

Cotton Insects



Captures of bollworm moths in pheromone traps have increased dramatically, as have sightings of adults and



larvae in the field. We are finding much more injury to non-Bt cotton than we observed last year. Most of the 2- and 3-gene Bt cotton is holding up well under the pressure, but we are still seeing a few terminals, squares, blooms, and bolls injured here and there. Scout for eggs and larvae, and pay particular attention to blooms. Any counts over 20 eggs per 100 plants should get your attention. When those eggs hatch, you want to catch those larvae when they are small and exposed. Most will succumb to Bt toxins as neonates, but, if they make it to 2nd or 3rd instar, Bt cotton is not going to kill them. If a moth puts an egg on a bloom, it is almost impossible to see, but look for small larvae in white blooms. You can catch them there when they are small. When blooms dry into what we call a dried bloom tags, look under tags on the tops of small bolls for small larvae burrowing into bolls. It is difficult to control bollworm with any foliar insecticide when much of this is occurring, so you have to get in front of them some by catching the flight early. Paying attention to moth activity in the field, looking for eggs and

small caterpillars, and being timely with any sprays is what should be done. You don't want it to get to this point, as this guy is probably not going to be controlled with anything we throw at him.

Stink bugs should be the focus of insect management efforts in cotton from here to the end of the season – well, at least to the 7th week of bloom. Do you know what week of bloom your fields are in right now? I hope so. Proper use of our dynamic boll-injury threshold requires you to know what week of bloom you are in for each field. You have to know that to control stink bugs effectively using the threshold. The first week of bloom is when every other plant has its initial white flower. This occurs shortly after you notice the first bloom in the field. Most of our cotton is past this event, but, generally, cotton starts blooming about 60 days after planting.
Here are our thresholds for stink bugs in cotton:

STINK BUGS

Product (non-pyrethroids)	Product/acre	Lb ai/acre	Acre/gal	REI	PHI	Comments
dicrotophos **(R)** Bidrin 8 E	 4.0-8.0 oz	0.25-0.5	16-32	3 d	30 d	16 oz limit post bloom; low rates for tank mix only
acephate Orthene/Acephate 97 Orthene/Acephate 90	 0.52-0.77 lb 0.55-0.83 lb	0.5-0.75	 - -	24 hr	21 d	
oxamyl **(R)** Vydate 3.77 CLV	 13.6-17.0 oz	0.4-0.5	 7.5-9.4	48 hr	14 d	
novaluron Diamond 0.83 EC	 9.0-14.0 oz	0.058-0.09	 9.1-14.2	12 hr	30 d	Effective on nymphs only

…more on next page…

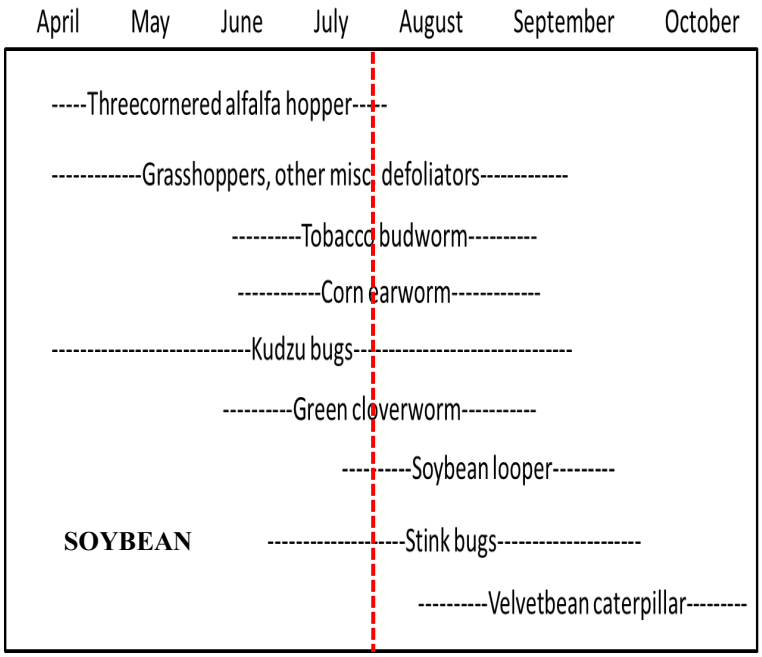
Product (pyrethroids)	Product/acre	Lb ai/acre	Acre/gal	REI	PHI	Comments
bifenthrin **(R)** Discipline 2 EC or Brigade 2 EC or Fanfare 2 EC or Bifenture 2 EC	2.6-6.4 oz	0.04-0.1	20-50	12 hr	14 d	Control of spider mites at high rates
beta-cyfluthrin **(R)** Baythroid XL 1 EC	1.6-2.6 oz	0.0125-0.02	49-80	12 hr	0 d	
lambda-cyhalothrin **(R)** Karate Z 2.08 CS or Warrior II 2.08 CS Karate 1 EC or Silencer 1 EC or Lambda-Cy 1 EC	1.6-2.56 oz 3.2-5.12 oz	0.025-0.04	50-80 25-40	24 hr	21 d	
cypermethrin **(R)** Up-Cyde 2.5 EC	2.0-5.0 oz	0.04-0.1	25-64	12 hr	14 d	
zeta-cypermethrin/ bifenthrin **(R)** Hero 1.24 EC	5.2-10.3 oz	0.05-0.1	12.4-24.6	12 hr	14 d	
esfenvalerate **(R)** Asana XL 0.66 EC	9.6 oz	0.05	13	12 hr	21 d	
gamma-cyhalothrin **(R)** Declare 1.25 CS	1.28-2.05 oz	0.0125-0.02	63-100	24 hr	21 d	
zeta-cypermethrin **(R)** Mustang Max 0.8 EC	2.64-3.6 oz	0.017-0.0225	35-48	12 hr	14 d	
alpha-cypermethrin **(R)** Fastac 0.83 EC	3.6 oz	0.023	35.5	12 hr	21 d	

Treat when medium-sized bolls display symptoms of feeding injury by week of bloom (50, 30, 10, 10, 10, 20, 30, 50%) and stink bugs are present. Begin scouting for stink bugs when small bolls appear. Consider using a more aggressive (i.e. 10%) threshold during weeks 3-5 of bloom, as bolls developing during this growth stage are particularly susceptible. Randomly select at least 25 bolls (at least a quarter [1 inch] in diameter) per field (add 1 additional boll for each acre exceeding 25 acres). Break each boll open and examine the carpal walls, lint, and seeds for injury symptoms. Look for the presence of warty growths on the carpal walls and for discolored seed and lint. To ensure the accuracy of this sampling method, do not deviate from weekly checking of quarter-size diameter bolls. One may also rate an infestation based upon numbers of stink bugs by using a 3-ft beat cloth. When this method is used, an insecticide treatment will be warranted for 1 or more stink bugs per 6 feet of row. Carefully approach and shake the plants on at least 30 feet of row (10, 3-ft samples). Pyrethroids applied for bollworm control will generally provide control of stink bugs as well. Bidrin should be used in a pyrethroid tank-mix in fields with infestations predominated by brown stink bugs. Be especially vigilant for stink bugs when no treatments are being applied for control of caterpillars.

We do have a lot of beneficial insects in the cotton field helping us combat the pests. Here a couple of photos of ants taking out a bollworm that was suffering from a viral infection and a spindled soldier bug (good guy stink bug) taking out another bollworm. Insecticides kill these good guys also, so be sure the spray you are calling for is needed. When it is time to spray, the good guys just have to deal with it also.

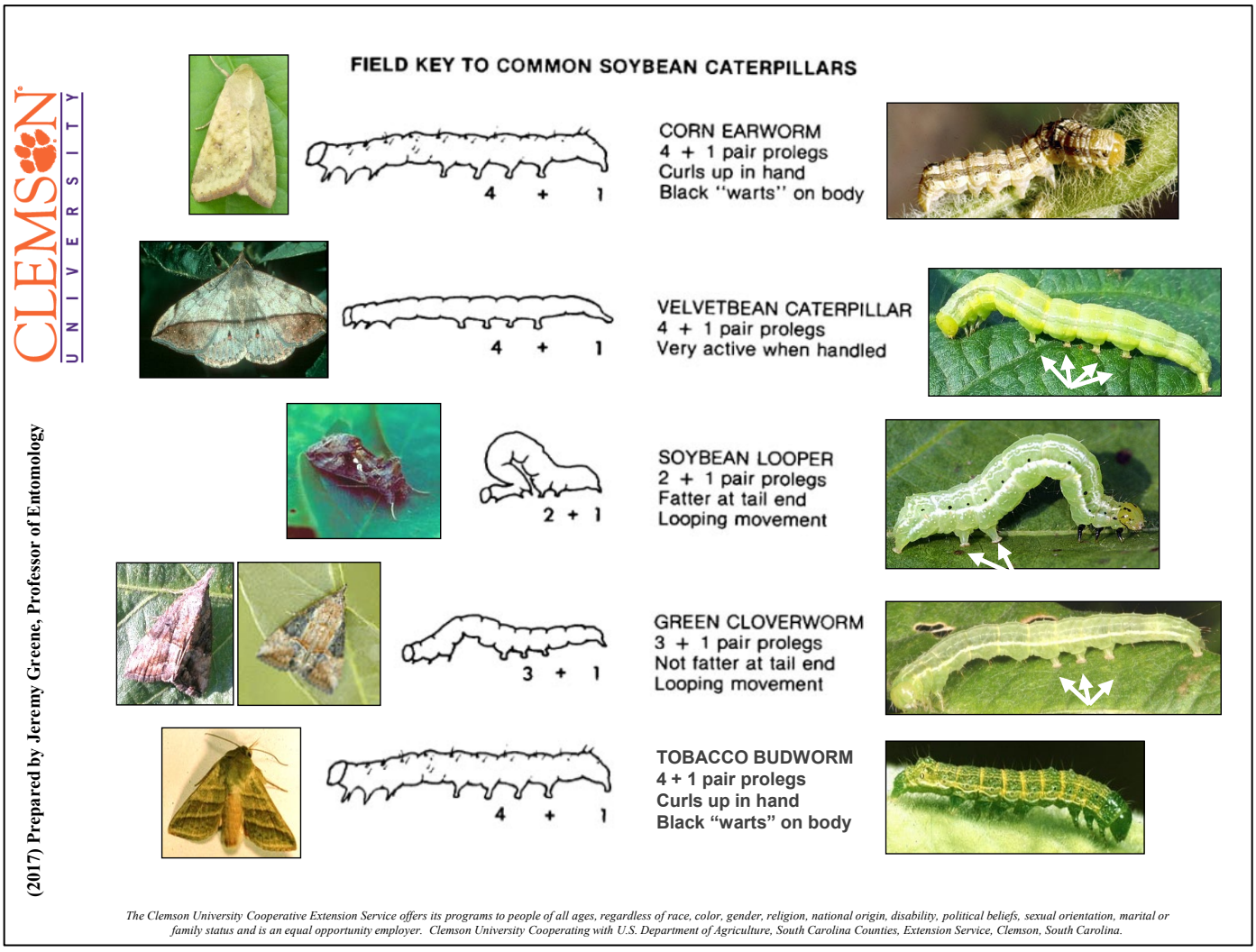
Soybean Situation

As of 26 July 2020, the USDA NASS South Carolina Statistical Office estimated that about 97% of the crop has emerged, compared with 93% the previous week, 99% at this time last year, and 99% for the 5-year average. About 25% of the crop is blooming, compared with 19% the previous week, 25% at this time last year, and 30% for the 5-year average. About 3% of the crop is setting pods, compared with NA% the previous week, 3% at this time last year, and 4% for the 5-year average. The condition of the crop was described as 16% excellent, 51% good, 18% fair, 10% poor, and 5% very poor. These are observed/perceived state-wide averages.



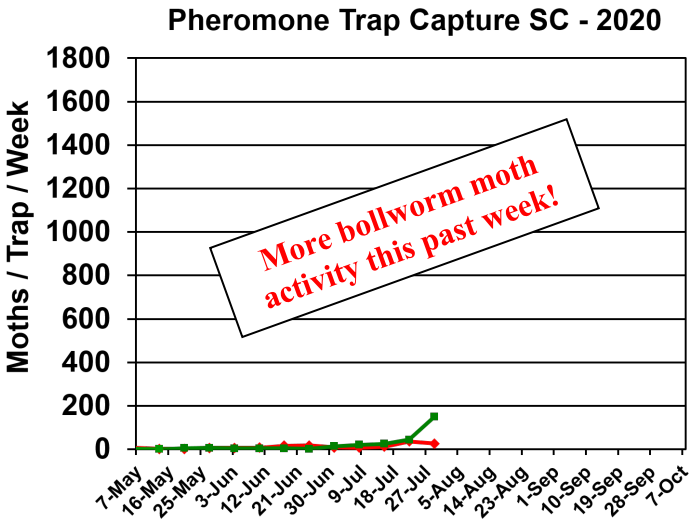
Soybean Insects

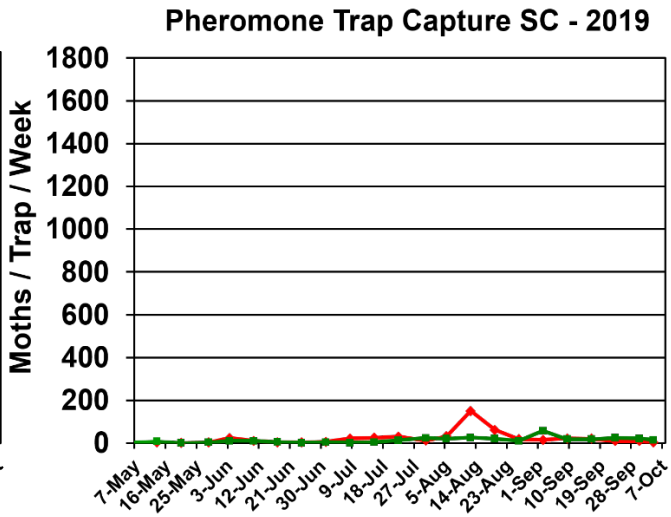
There are many species in soybeans right now. We have kudzu bug, green cloverworm, velvetbean caterpillar, podworm, several species of stink bugs, and many others. Defoliation is picking up, and small pods are susceptible to podworm and stink bugs. Don't let defoliation exceed 30% before mid-bloom or 15% after that. When pods are being set, we can stand less defoliation. Use a sweep net or a drop cloth to make counts of insects to see what species you have, as insecticide choice depend on proper identification of species. Estimate defoliation at least weekly. Thresholds for all important species are in the Pest Management Handbook. Be able to recognize larvae and moths! Use the chart here for identifying adults and larvae.



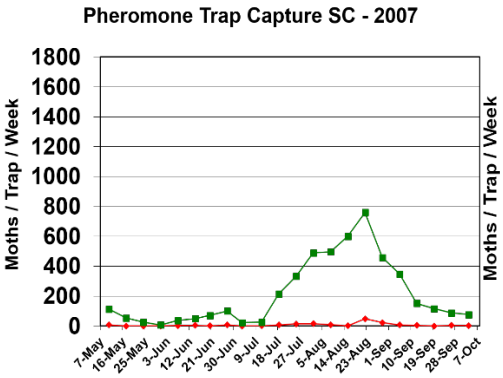
Bollworm & Tobacco Budworm

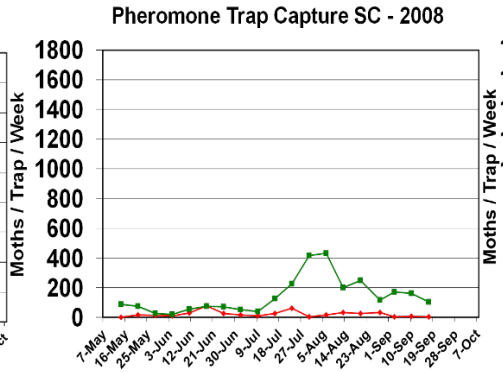
Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2007-2019 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state.

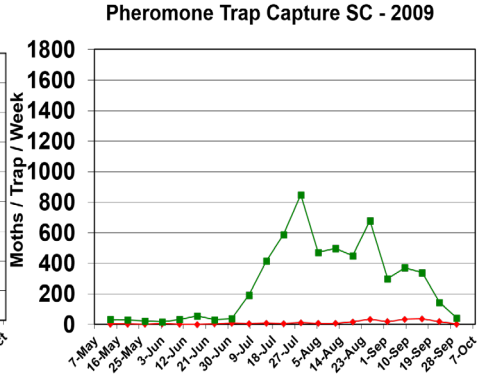


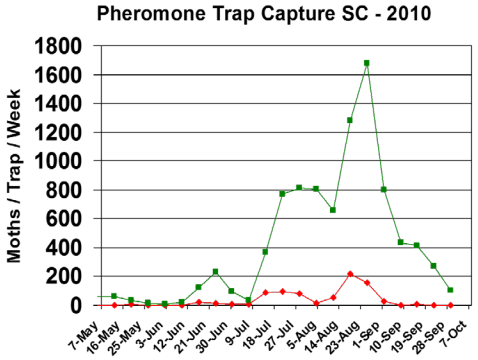


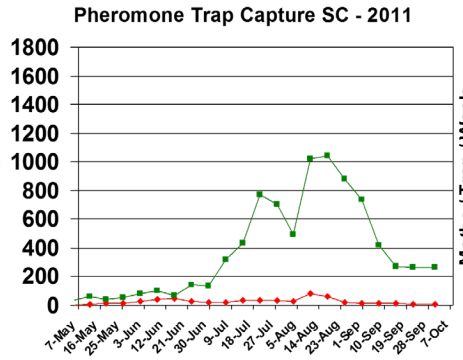
Trap data from 2007-2018 are shown below for reference to other years of trapping data from EREC:

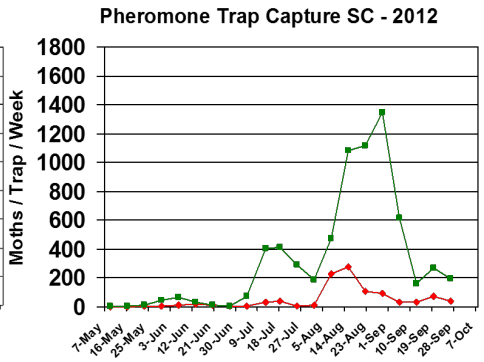


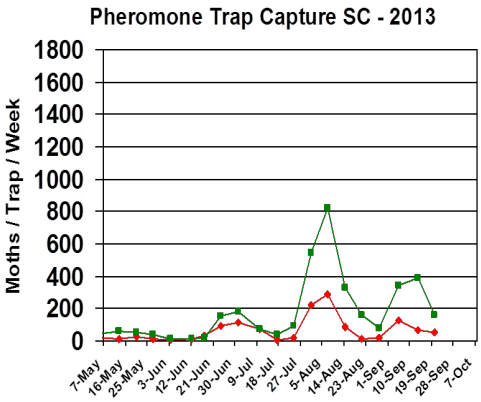


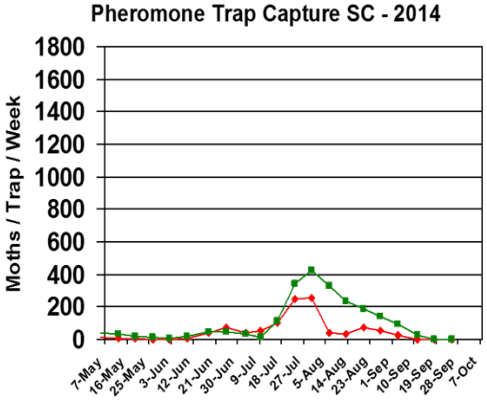


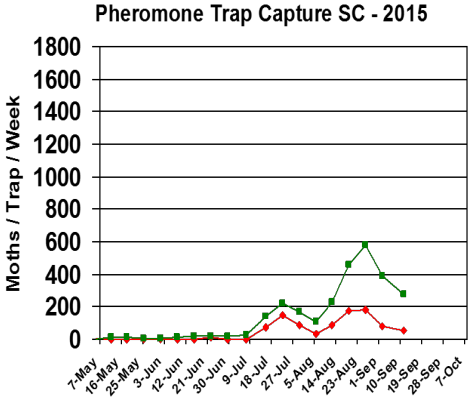


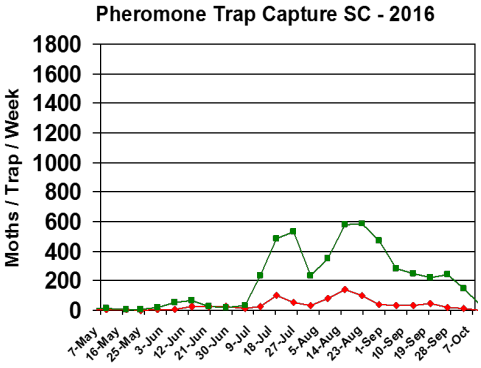


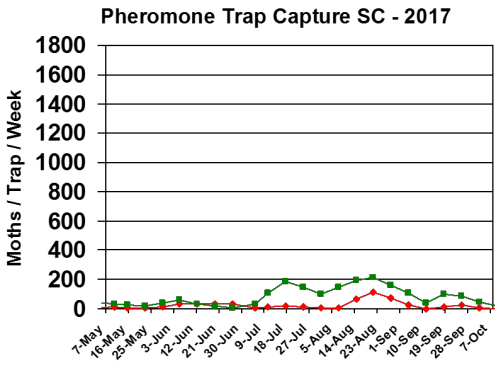


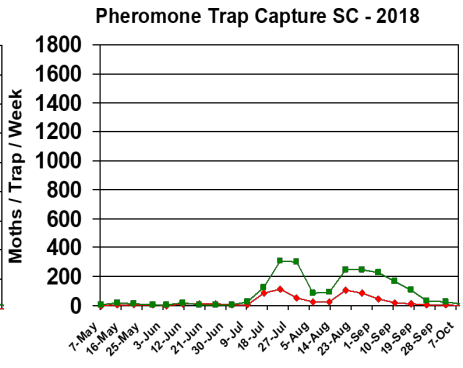








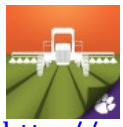




Pest Management Handbook – 2020

Insect control recommendations are available online in the 2020 South Carolina Pest Management Handbook at:
https://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html

Free Mobile Apps: "Calibrate My Sprayer" and "Mix My Sprayer"



Download our free mobile apps called "Calibrate My Sprayer" and "Mix My Sprayer" that help check for proper calibration of spraying equipment and help you with mixing user-defined pesticides, respectively, in custom units (available in both iOS and Android formats):
http://www.clemson.edu/extension/mobile-apps/

Need More Information?

For more Clemson University Extension information: http://www.clemson.edu/extension/

For historical cotton/soybean insect newsletters:
https://www.clemson.edu/extension/agronomy/cotton1/newsletters.html

Sincerely,

Jeremy K. Greene, Ph.D.
Professor of Entomology

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